film-00cover-1.qxd 12/23/03 8:22 PM Page 1

– AFTER SALES SERVICE

– Do not hesitate to contact your retailer or service agent if a change in the performance of your product indicates that a faulty condition may be present.

SAMSUNG ELECTRONICS

BN68-00573J-00

SAMSUNG

LCD TV

LS15M13C
LS20M11C

Owner's Instructions

Before operating the unit,
please read this manual thoroughly,
and retain it for future reference.

ON-SCREEN MENUS
TELETEXT

This device is a Class B digital apparatus.

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SAMSUNG

LCD TV

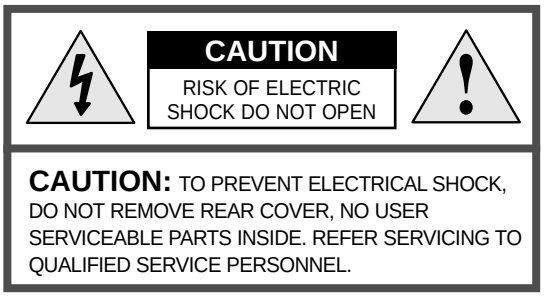
LS15M13C
LS20M11C

Owner's Instructions

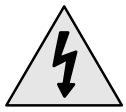
Before operating the unit,
please read this manual thoroughly,
and retain it for future reference.

ON-SCREEN MENUS
TELETEXT

Caution


CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO PREVENT ELECTRICAL SHOCK, DO NOT REMOVE REAR COVER, NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash and arrow head within the triangle is a warning sign alerting you of “dangerous voltage” inside the product.



The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.

WARNING: TO PREVENT DAMAGE WHICH MAY RESULT IN FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

☛ *The main voltage is indicated on the rear of your set and the frequency is 50 or 60 Hz.*

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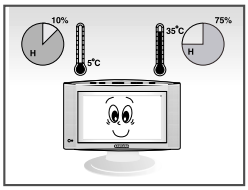
European Notice (Europe Only)

Products with the CE marking comply with the EMC Directive (89/336/EEC), (92/31/EEC), (93/68/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Norms:

- EN55013:1990+A12:1994+A13:1996+A14:1999 - Radio Frequency Interference
- EN55020:1994+A11:1996+A12/A13/A14:1999 - Electromagnetic Immunity
- EN61000-3-2:1995+A1/A2:1998 - Power Line Harmonics
- EN61000-3-3:1995 - Voltage Fluctuations
- EN60065:1998 - Product Safety

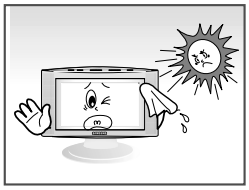
Safety Instructions

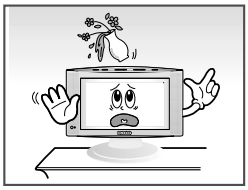
These illustrations represent precautions concerning your set.



◀ Do not expose your set to extreme temperature or humidity conditions.

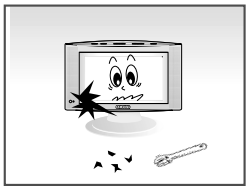
Do not expose your set to ▶ direct sunlight.

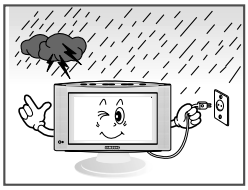




◀ Do not expose your set to any liquids.

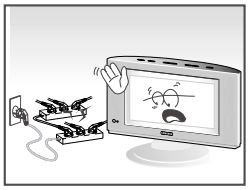
If your set is broken, ▶ do not try to repair it yourself. Contact qualified service personnel.





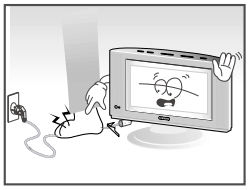
◀ During storm conditions (especially when there is lightning) unplug your set from the mains socket and aerial.

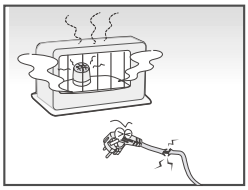
Do not plug too many appliances ▶ into one socket. (It may cause the socket to overload, which can result in a fire.)



◀ Do not install the product in a confined space with poor ventilation, such as on a bookshelf or in a closet. (An increase in internal temperature can be a fire hazard.)

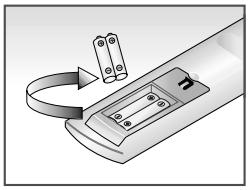
Do not forcibly bend, pull or put ▶ a heavy object on the power cord. (It may cause an electric shock or a fire.)

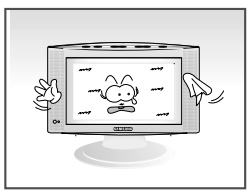




◀ Do not place the power cord near a heating device. (The protective coating of the cord may melt off, which can cause an electric shock or a fire.)

If the remote control is not used for a long ▶ period of time, remove the batteries and store it in a cool, dry place.





◀ Do not display a still image (such as on a video game or when hooking up a DVD to this LCD TV) on the Color TFT-LCD (Thin Film Transister Liquid Crystal Display) panel for a long time as it can cause screen image retention. This image retention is also known as “screen burn”. To avoid such image retention, reduce the degree of brightness and contrast of this screen when displaying a still image.

THIS DEVICE IS NOT FOR USE IN INDUSTRIAL ENVIRONMENTS

Please use a soft and dry cloth (not containing volatile matter) when you clean the TV.

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    - – Connecting a Set-Top Box, VCR, or DVD 8
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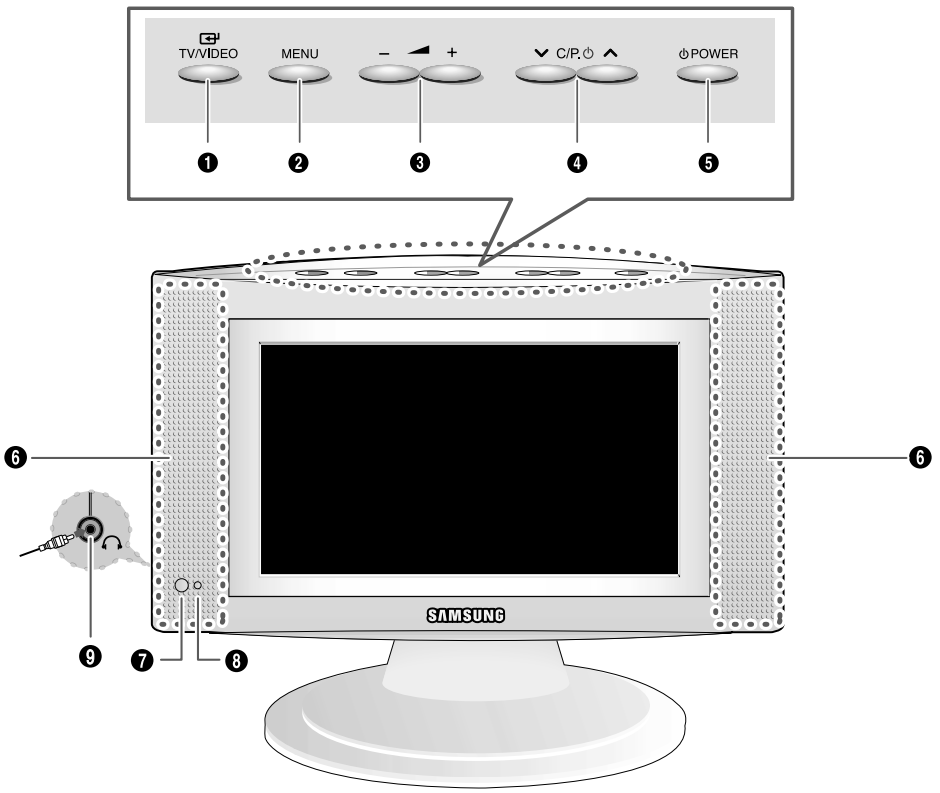
Viewing the Control Panel



❶ TV/VIDEO
Displays a menu of all of the available input sources (TV - AV - S-VIDEO - Component).

❷ MENU
Opens the on-screen menu.

❸ - +
Moves the selector left or right on the OSD.
Increases or decreases the level of audio volume.
+ : Display a submenu containing selections for the current menu option.
- : Return to the previous menu.Close the on-screen menu system on main menu.

❹ C/P.
Moves the selector up or down on the OSD.
Increases or decreases the channel number.

❺ POWER
Turns ON/OFF your set.

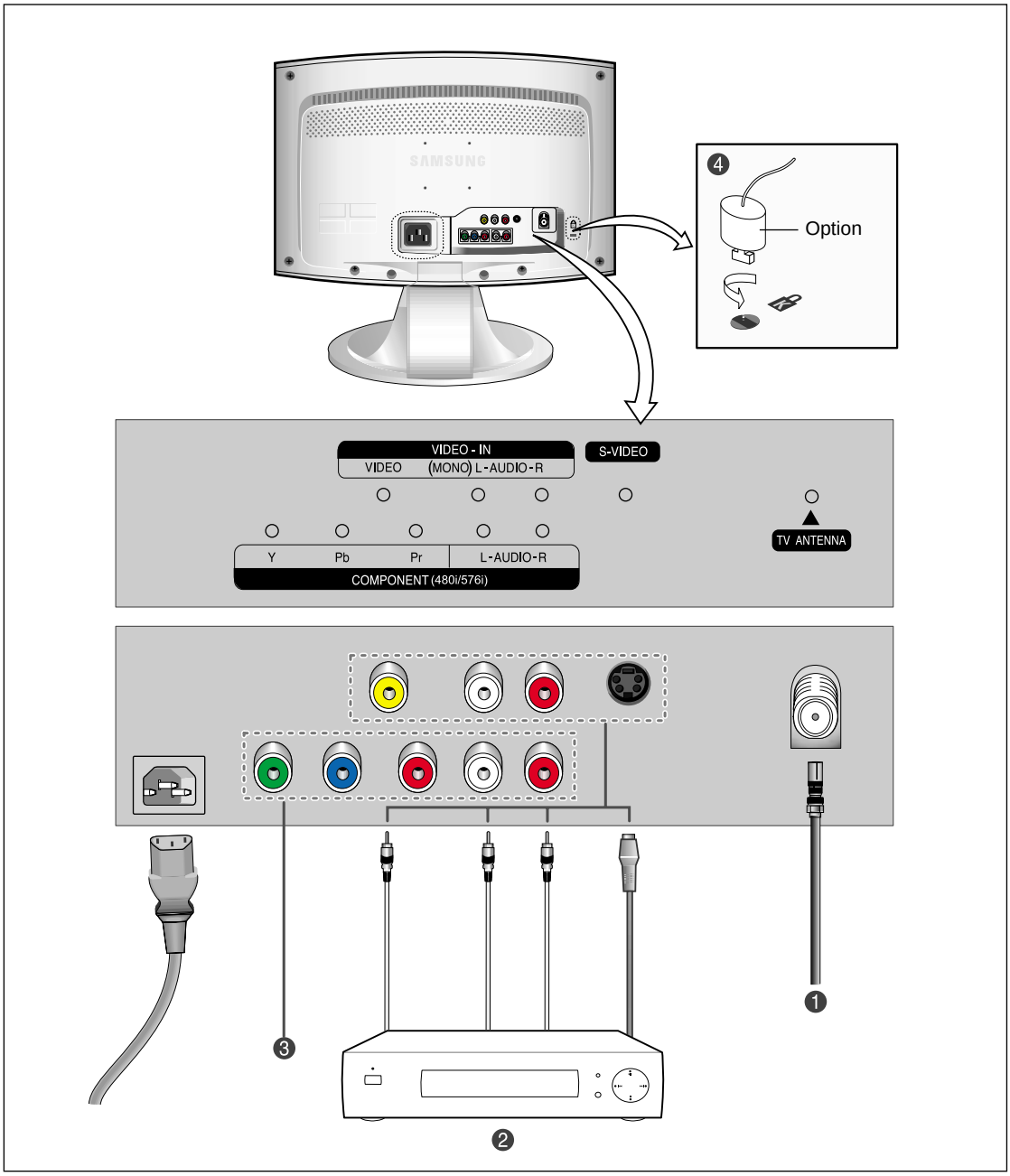
❻ SPEAKERS

❼ REMOTE CONTROL SENSOR

❽ POWER INDICATOR
Lights up when you turn the power off.

❾ HEADPHONE JACK

Viewing the Connection Panel



☛ Whenever you connect an audio or video system to your set, ensure that all elements are switched off.
Refer to the documentation supplied with your equipment for detailed connection instructions and associated safety precautions.

Viewing the Connection Panel

❶ ***Connecting an Aerial or Cable Television Network (depending on the model)***

To view television channels correctly, a signal must be received by the set from one of the following sources:

- An outdoor aerial
- A cable television network
- A satellite network

❷ ***Connecting External A/V Devices***

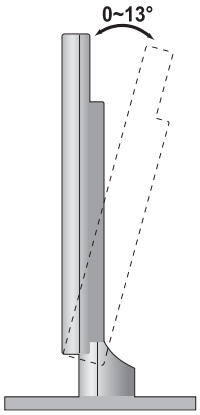
- Connect RCA or S-VIDEO cables to an appropriate external A/V device such as a VCR, DVD, or Camcorder.
- Connect RCA audio cables to “AUDIO (L)” and “AUDIO (R)” on the rear of your set and the other ends to corresponding audio out connectors on the A/V device.

❸ ***Connecting Component Device (DVD - 480i and 576i only supported)***

- Connect component video cables to component connector **(“Y”,“Pb”,“Pr”)** on the rear of your set and the other ends to corresponding component video out connectors on the DVD.
- The Y, Pb and Pr connectors on your component device (DVD) are sometimes labeled Y, B-Y and R-Y or Y, Cb and Cr.
- Connect RCA audio cables to “**AUDIO(L)**” and “**AUDIO(R)**” on the rear of your set and the other ends to corresponding audio out connectors on the DVD.
- Input signals not supported: 480p, 576p, 720p, 1080i, and 1080p

❹ ***Kensington Slot***

- This television has been designed to apply a burglarproof lock.

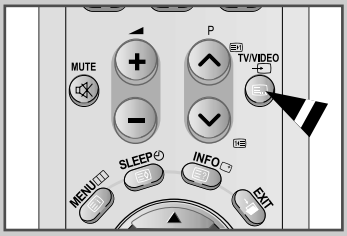


➢ **Retractable Stand**

Tilt the screen until you feel comfortable.
The maximum tilt angle is 13 degrees in the backward direction.
Please do not tilt the television beyond the specified range.
Using excessive force to tilt the television beyond the specified range may cause permanent damage to the mechanical part of the stand.

Viewing Pictures From External Sources

Once you have connected up your various audio and video systems, you can view the different sources by selecting the appropriate input.



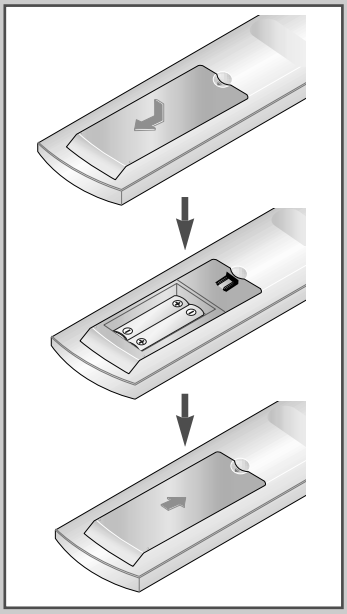
1 Check that all the necessary connections have been made (refer to pages **8** for further details).

2 ◆ TV/Video button...
Press the Video button to choose Video mode.
The input sources are displayed in the following order:
AV - S-Video - Component.

Inserting the Batteries in the Remote Control

You must insert or replace the batteries in the remote control when you:

- ***Purchase your set***
- ***Find that the remote control is no longer operating correctly***



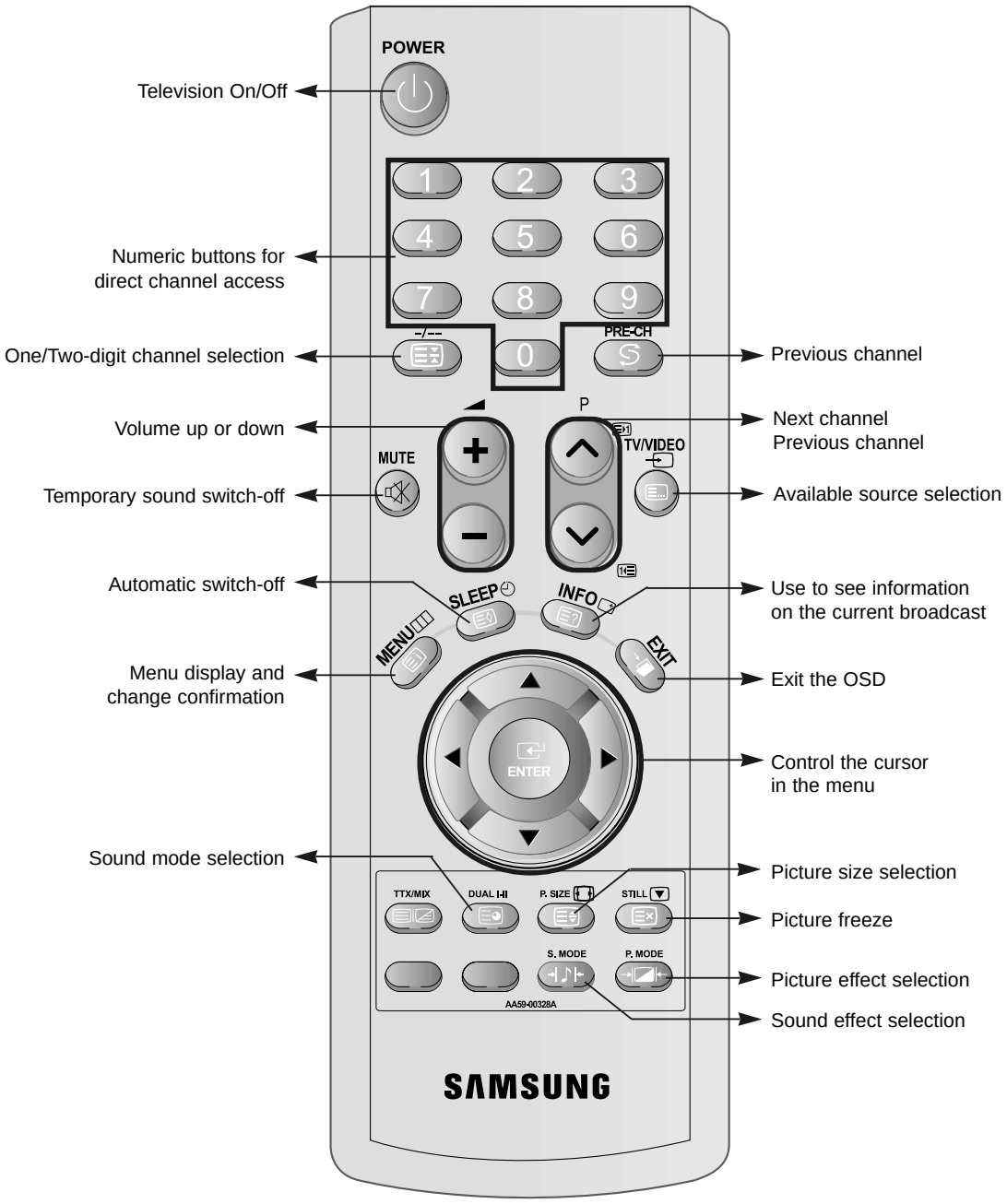
1 Remove the cover on the rear of the remote control by pressing the symbol downwards and then pulling firmly to remove it.

2 Install two **AAA** size batteries.
- **+** on the battery against **+** on the remote control
- **–** on the battery against **–** on the remote control

3 Replace the cover by aligning it with the base of the remote control and pressing it back into place.

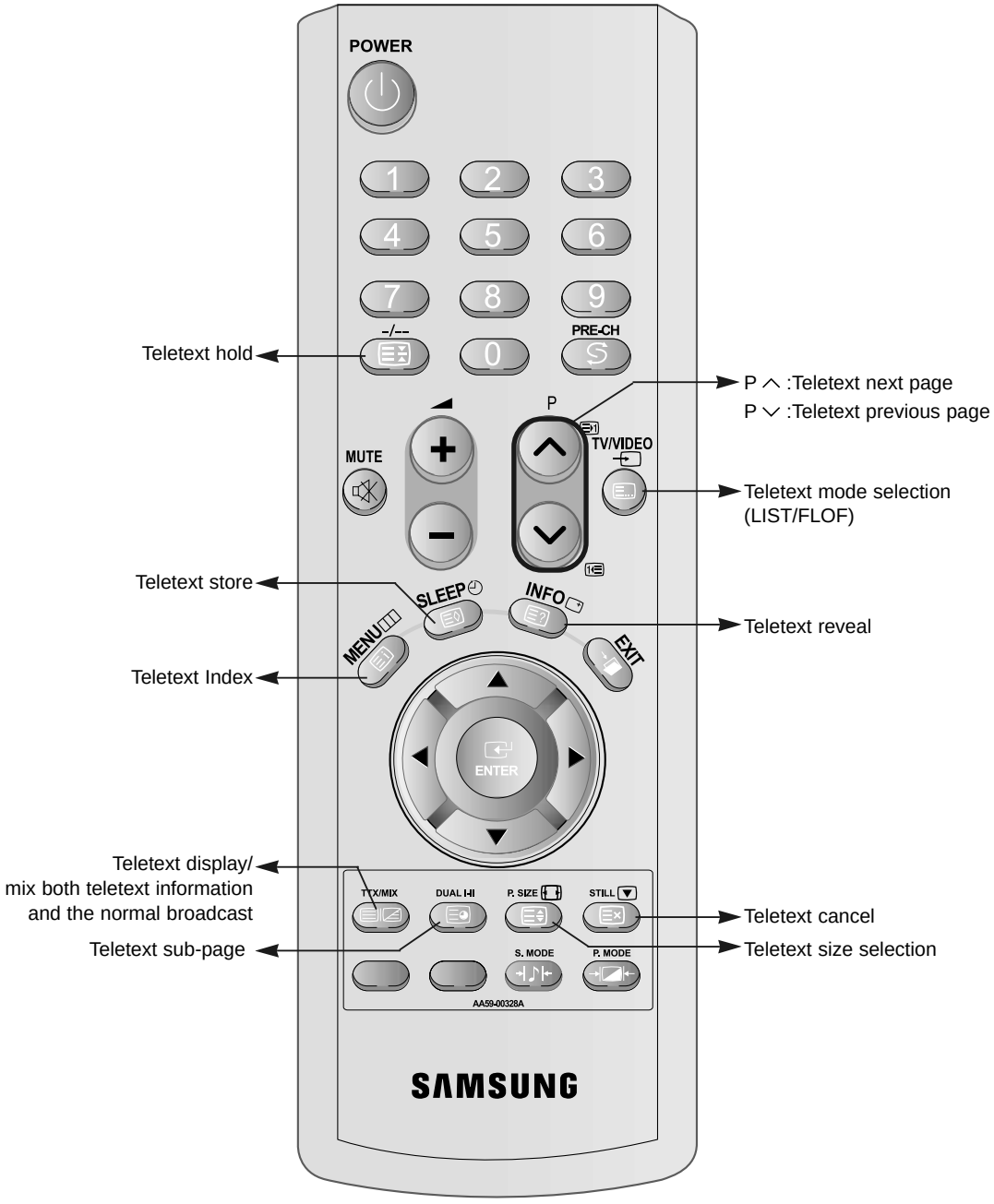
➢ Do not mix battery types, i.e. alkaline and manganese.

Viewing the Remote Control (All Functions Except Teletext)

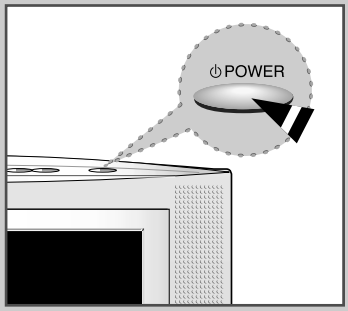


➢ The performance of the remote control may be affected by bright light.

Viewing the Remote Control (Teletext Functions)



Switching On and Off

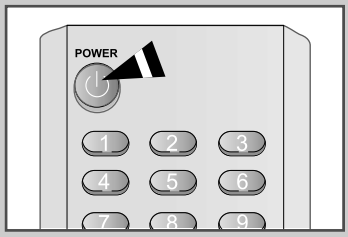


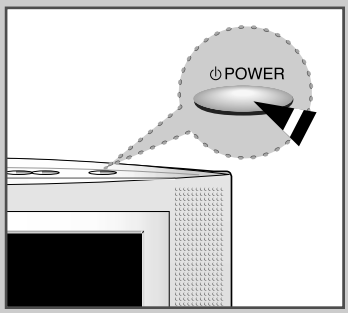
The mains lead is attached to the rear of your set.

➢ If you purchased this set in the United Kingdom, refer to page **46** for further instructions on plug wiring.

1	Plug the mains lead into an appropriate socket. Result: When the power cord is plugged in, the LED turns red.
2	Press the ⏻**POWER** button to switch on.
3	To switch off, press the ⏻**POWER** button again.

Placing in Standby Mode





Your set can be placed in Standby mode in order to reduce the power consumption.

The Standby mode can be useful when you wish to interrupt viewing temporarily (during a meal, for example).

1	Press the ⏻**POWER** button.
2	To switch back on, simply press the ⏻**POWER** button again or a numeric button or channel up, down button.

➢ Do not leave your set in Standby mode for long periods of time (when you are away on holiday, for example). Turn off by pressing the ⏻**POWER** button. It is best to unplug the set from the mains and aerial.

Becoming Familiar with the Remote Control

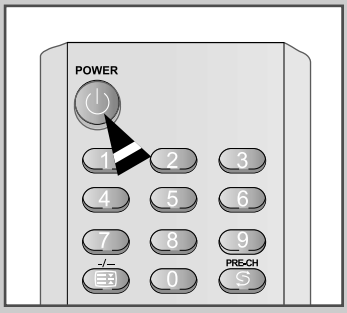
The remote control is used mainly to:

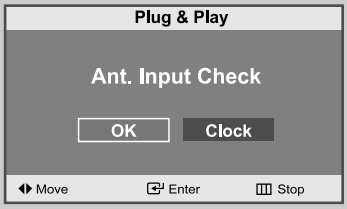
- ***Change channels and adjust the volume***
- ***Set up your set using the on-screen menu system***

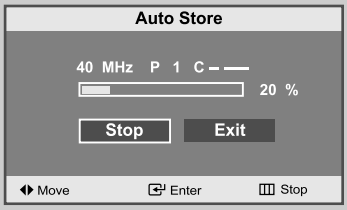
The following table presents the most frequently used buttons and their functions.

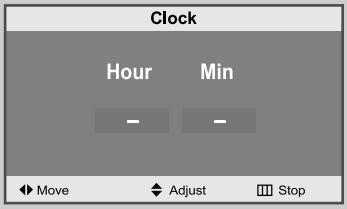
Button	Viewing Function	Menu Function
P ^	Used to display the next stored channel.	-
P v	Used to display the previous stored channel.	-
PRE-CH	Used to switch repeatedly between the last two channels displayed. (**PRE-CH**; Previous Channel)	
0 - 9	Used to display the corresponding channels.	
-/--	Used to select a channel numbered ten or over. Press this button, and the "**--**" symbol is displayed. Enter the two-digit channel number.	
+	Used to increase the volume.	-
−	Used to decrease the volume.	-
MUTE	Used to switch the sound off temporarily. To turn the sound back on, press this button again, or press the + or - button.	
MENU	Used to display the on-screen menu system.	Used to return to the previous menu or normal viewing.
EXIT	Used to exit the menu system and return directly to normal viewing.	
	▲▼ Used to move among the menu items.	
	► Used to select a menu item or increase the value of the selected item.	
	◄ Used to return to the previous menu item or decrease the value of the selected item.	

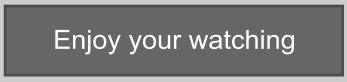
Plug & Play











When the set is initially powered ON, you are automatically presented with a series of basic customer settings.
The following settings are available.

1 If the set is in standby mode, press the ⏻ **POWER** button on the remote control.

Result: The message **Plug & Play** is displayed.

2 Press the **ENTER** ↵ button to confirm your choice.

Result: The message **Ant. Input Check** is displayed with **OK** selected.

3 Press the **ENTER** ↵ button.

4 Select your **Area** by pressing the ▲ or ▼ button.
Press the **ENTER** ↵ button.

Result: The country menu is displayed:
ASIA W / EUROPE - CIS E / EUROPE - CHINA - HONGKONG U/K - AUSTRALIA - NZ / INDONESIA - SOUTH AFRICA - AMERICA

5 Select the **Hour** or **Min** by pressing the ◄ or ► button.
Set the **Hour** or **Min** by pressing the ▲ or ▼ button.
(Refer to "**Setting the Clock**" on page **32**)

6 Press the **MENU** button to confirm your setting.

Result: The message **Enjoy your watching** is displayed, and then the channel which has been stored will be activated.

Plug & Play

If you want to reset this feature...

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Setup**.

Result: The options available in the **Setup** group are displayed.

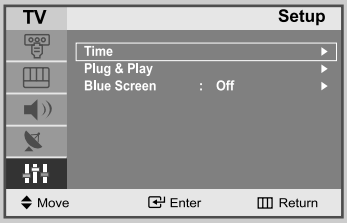
3 Press the **ENTER** ↵ button.

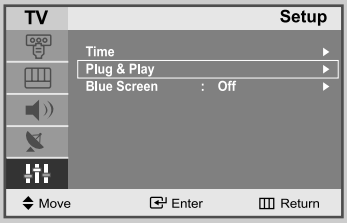
4 Press the ▲ or ▼ button to select the **Plug & Play**.
Press the **ENTER** ↵ button.

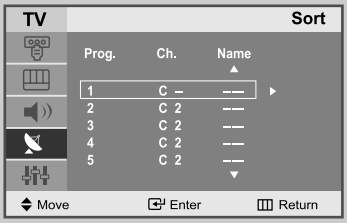
Result: The message **Plug & Play** is displayed.

5 For further details on how to set up this feature, refer to page the previous page.

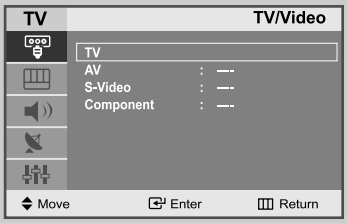
➢ The Sort menu is displayed after the Plug & Play ends.







Selecting TV Mode or an Input Source



You can choose TV mode or change to an input source connected to the TV set. Use this button to choose an input source that you would like to watch.

1	Press the **MENU** button. Result: The main menu is displayed.
2	Press the ▲ or ▼ button to select the **Input**. Result: The options available in the **Input** group are displayed.
3	Press the **ENTER** ↵ button.
4	Press the **ENTER** ↵ button. Result: The **TV/Video** is selected.
5	Press the ▲ or ▼ button to move to the input source that you wish to choose. Press the **ENTER** ↵ button. Result: The input source changes to the one you have chosen.

Editing an Input Source Name

Entering the names of the input source devices connected to the input ports on the TV set allows you to find and choose an input source that you would like to watch in a quick and convenient manner.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Input**.

Result: The options available in the **Input** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the ▲ or ▼ button to select the **Edit Name**.
Press the **ENTER** ↵ button.

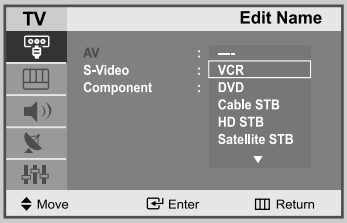
5 Press the ▲ or ▼ button to move to the input source that you wish to edit.
Press the **ENTER** ↵ button.

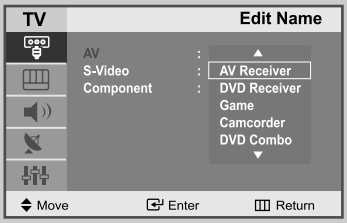
Result: The following options are available:
AV - S-Video - Component

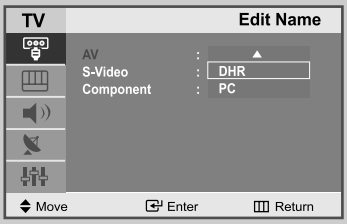
6 Select the required device by pressing the ▲ or ▼ repeatedly.

Result: The following options are available:
---- - VCR - DVD - Cable STB - HD STB - Satellite STB - AV Receiver - DVD Receiver - Game - Camcorder - DVD Combo - DHR - PC.

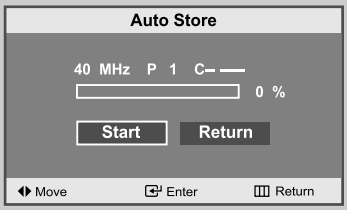
7 When you are satisfied with your choice, press the **EXIT** button to return to normal viewing.







Storing Channels Automatically



You can scan for the frequency ranges available to you (and availability depends on your country). Automatically allocated programme numbers may not correspond to actual or desired programme numbers. However you can sort numbers manually and clear any channels you do not wish to watch.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Channel**.

Result: The options available in the **Channel** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the ▲ or ▼ button to select **Auto Store**.
Press the **ENTER** ↵ button.

5 Press the **ENTER** ↵ button to search the channels.
The sub menu is changed from **Start** to **Stop** with channel search started.

Result: The search will end automatically.
Channels are sorted and stored in an order which reflects their position in the frequency range, (with lowest first and highest last). The programme originally selected is then displayed.

➢ To return to the previous menu, press ◄ or ► button to select **Return** and then press **ENTER** ↵ button.

➢ To stop the search before it has finished, press the **ENTER** ↵ button to search the channels.

6 When the channels have been stored, you can:
- Add or delete the channels (refer to page 22)
- Sort them in the order required (refer to page 23)
- Assign a name to the stored channels (refer to page 24)
- Fine tune channel reception if necessary (refer to page 25)

Storing Channels Manually

You can store up to 100 channels, including those received via cable networks.
When storing channels manually, you can choose:

- ***Whether or not to store each of the channels found***
- ***The programme number of each stored channel which you wish to identify***

1 Press the **MENU** button.

Result: The main menu is displayed.

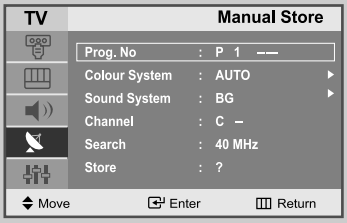
2 Press the ▲ or ▼ button to select the **Channel**.

Result: The options available in the **Channel** group are displayed.

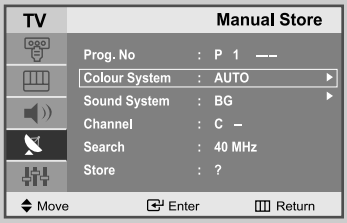
3 Press the **ENTER** ↵ button.

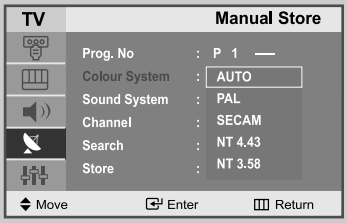
4 Press the ▲ or ▼ button to select the **Manual Store**.
Press the **ENTER** ↵ button.

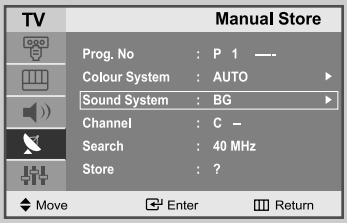
Result: The options available in the **Manual Store** group are displayed with the **Prog. No** selected.

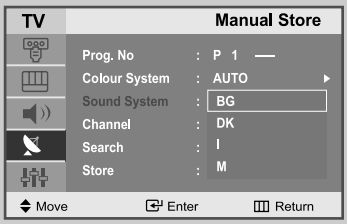


Storing Channels Manually









5 Press the ▲ or ▼ button to select **Colour System**.
Press the **ENTER** ↵ button.
Select the **Colour System** required by pressing the ▲ or ▼ button repeatedly and then press the **ENTER** ↵ button.

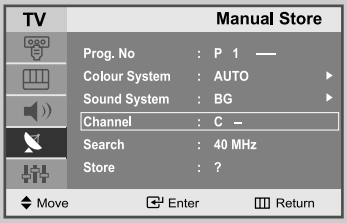
Result: The colour standards are displayed in the following order: **AUTO - PAL - SECAM - NT4.43 - NT3.58**

6 Press the ▲ or ▼ button to select **Sound System**.
Press the **ENTER** ↵ button.
Select the **Sound System** required by pressing the ▲ or ▼ button repeatedly and then press the **ENTER** ↵ button.

Result: The sound standards are displayed in the following order: **BG - DK - I - M**

7 For all the channels to move to the required channel numbers, repeat steps **5** to **6** after selecting **Prog. No** by pressing the ▲ or ▼ button.

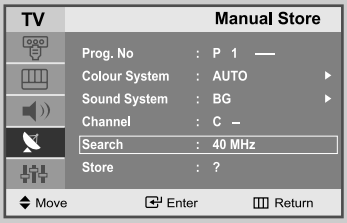
Storing Channels Manually



8 If you know the channel number to be stored,

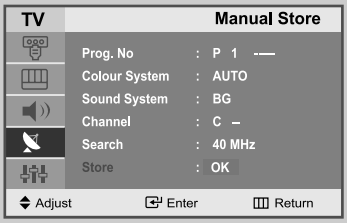
- Press the ▲ or ▼ button to select the **Channel**. Press the **ENTER** button.
- Select **C** (Air channel) or **S** (Cable channel) by pressing the ▲ or ▼ button and then press the **ENTER** button.
- Select the required number by pressing the ▲ or ▼ button and then press the **ENTER** button.

➢ If there is normal sound or no sound, re-select the sound system required.



9 If you do not know the channel numbers, press the ▲ or ▼ button to select **Search**.
Press the **ENTER** button.
Start the **Search** by pressing the ▲ or ▼ button.
Press the **ENTER** button.

Result: The tuner scans the frequency range until the first channel or the channel that you selected is received on your screen.

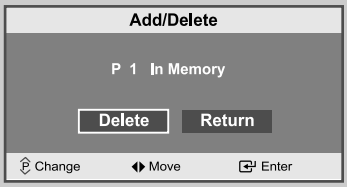


10 Press the ▲ or ▼ button to select **Store**.
Press the **ENTER** button.
Select **OK** by pressing the ▲ or ▼ button.
Press the **ENTER** button.

Result: The channel and associated programme number are stored.

11 Repeat Steps **8** to **10** for each channel to be stored.

Editing the Channels



You can exclude any channels of your choice from the channels you have scanned. When you scan through the stored channels, those you have chosen to skip are not displayed.

All channels that you do not specifically choose to skip are displayed during scanning.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Channel**.

Result: The options available in the **Channel** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the ▲ or ▼ button to select **Add/Delete**.
Press the **ENTER** ↵ button.

Result: The state of the current channel is displayed.

5 Press the ∧ or ∨ button to select the channel that you wish to **Add** or **Delete**.

Result: If the channel that you wish to edit is not in the memory, Add is selected and displayed.
Otherwise, if the channel that you wish to edit is in the memory, Delete is selected and displayed.

6 Press the **ENTER** ↵ button to **Add** or **Delete** the channel.

7 To return to the previous menu, select **Return** by pressing the ◄ or ► button and then press the **ENTER** ↵ button.

8 Repeat Step **5** for each channel to be added or erased.

Sorting the Stored Channels

You can exchange the numbers of two channels, in order to:

- ***Modify the numeric order in which the channels have been automatically stored.***
- ***Assign easily remembered numbers to the channels that you watch most often.***

1 Press the **MENU** button.

Result: The main menu is displayed.

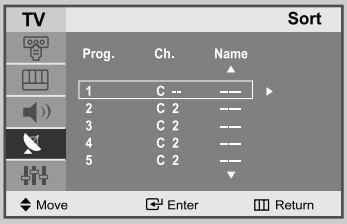
2 Press the ▲ or ▼ button to select the **Channel**.

Result: The options available in the **Channel** group are displayed.

3 Press the **ENTER** button.

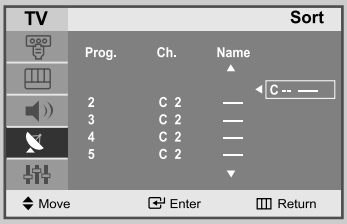
4 Press the ▲ or ▼ button to select **Sort**.
Press the **ENTER** button.

Result: The current **Prog. Ch.** and **Name** are displayed.



5 Select the channel number that you wish to change by pressing the ▲ or ▼ button repeatedly.
Press the **ENTER** button.

Result: The selected **Channel number** and **Name** are moved to the right side.

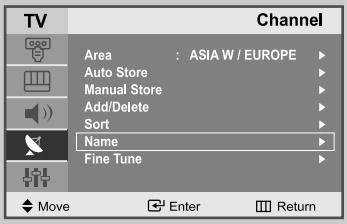


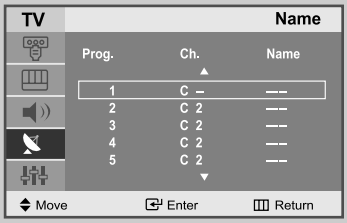
6 Press the ▲ or ▼ button to move to the position which you would like to change and then press the **ENTER** button.

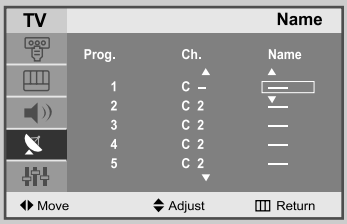
Result: The selected channel is exchanged with the one previously stored to the chosen number.

7 Repeat step **5** to **6** for another channel to sort again.

Giving Channels Names







If channel name information is broadcast when you store the channels either manually or automatically, the names are assigned to the channels directly. You can however change these names or assign new names as required.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Channel**.

Result: The options available in the **Channel** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the ▲ or ▼ button to select the **Name**.
Press the **ENTER** ↵ button.

Result: The current **Prog. Ch.** and **Name** are displayed.

5 If necessary, select the channel to be assigned to a new **Name** by pressing the ▲ or ▼ button.
Press the **ENTER** ↵ button.

Result: The selection bar is displayed around the name box.

6

To...	Then...
Select a letter, number or symbol	Press the ▲ or ▼ button
Move on to the next letter	Press the ► button
Move back to the previous letter	Press the ◄ button
Confirm the name	Press the **ENTER** ↵ button

➢ The characters available are :
- ◆ Letters of the alphabet (A~Z)
- ◆ Numbers (0~9)
- ◆ Special characters (–, space)

7 Repeat Steps **5** to **6** for each channel to be assigned to a new name.

8 When you have finished entering the name, press the **ENTER** ↵ button to confirm the name.

Fine Tuning Channel Reception

If the reception is clear, you do not have to fine-tune the channel, as this is done automatically during the search and store operation. If however the signal is weak or distorted, you may have to fine-tune the channel manually.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Channel**.

Result: The options available in the **Channel** group are displayed.

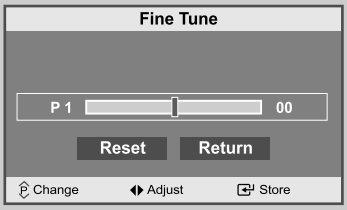
3 Press the **ENTER** ↵ button.

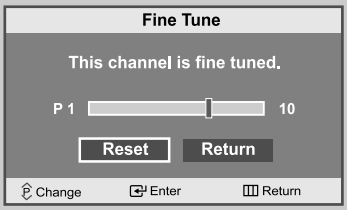
4 Press the ▲ or ▼ button to select the **Fine Tune**.
Press the **ENTER** ↵ button.

5 Press the ∧ or ∨ button to select the channel that you wish to **Fine Tune**.

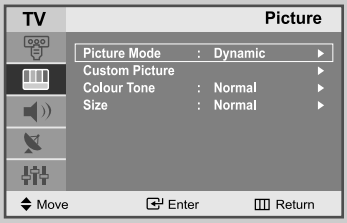
6 Press ◄ or ► button until you reach the setting to obtain a sharp and clear picture and good sound quality.
To store the setting, press the **ENTER** ↵ button.

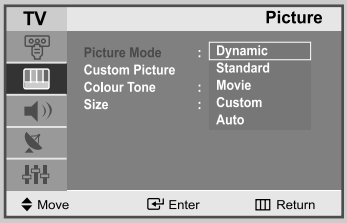
7 To reset the fine tuning, select **Reset** by pressing the ▲ or ▼ button and then press the **ENTER** ↵ button.
To return to the previous menu, select **Return** by pressing the ◄ or ► button and press the **ENTER** ↵ button.

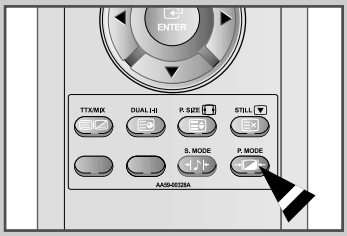




Changing the Picture Standard







You can select the type of picture which best corresponds to your viewing requirements.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Picture**.

Result: The options available in the **Picture** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the **ENTER** ↵ button.

Result: The **Picture Mode** is selected .

5 Select the required picture effect by pressing the ▲ or ▼ button repeatedly.
Press the **ENTER** ↵ button.

Result: The following picture effects are available:
Dynamic - Standard - Movie - Custom - Auto

➢ You can also set these options simply by pressing the **P.MODE** (Picture Mode) button.

Adjusting the Custom Picture

Your set has several settings which allow you to control picture quality.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Picture**.

Result: The options available in the **Picture** group are displayed.

3 Press the **ENTER** button.

4 Press the ▲ or ▼ button to select the **Custom Picture**.
Press the **ENTER** button.

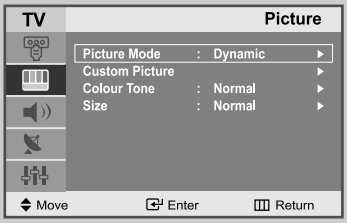
5 Select the option (**Contrast**, **Brightness, Sharpness**, **Colour or Tint-NTSC only**) to be adjusted by pressing the ▲ or ▼ button.
Press the **ENTER** button.

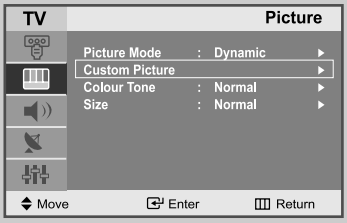
Result: The horizontal bar is displayed.

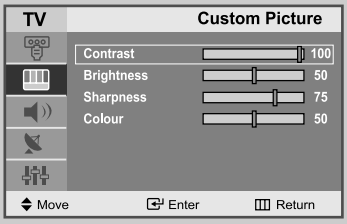
6 Press the ◄ or ► button to reach the required setting.

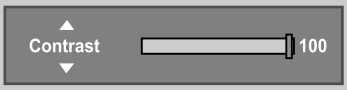
7 When you are satisfied with the setting, press the **MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.

➢ If you make any changes to these settings, the picture standard is automatically switched to Custom.

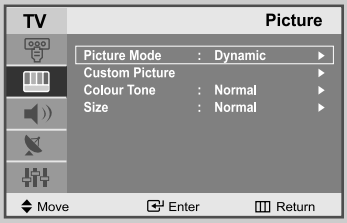


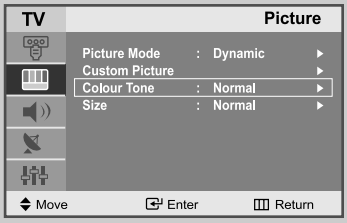


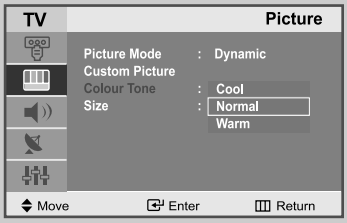




Adjusting the Screen Background Colour







You can change the screen background colour according to your preference.

1	Press the **MENU** button. Result: The main menu is displayed.
2	Press the ▲ or ▼ button to select the **Picture**. Result: The options available in the **Picture** group are displayed.
3	Press the **ENTER** ↵ button.
4	Press the ▲ or ▼ button to select the **Colour Tone**. Press the **ENTER** ↵ button. Result: The following options are available: **Cool - Normal - Warm**
5	When you are satisfied with your choice, press the **EXIT** button to return to normal viewing.

Changing the Picture Size

You can select the picture format which best corresponds to your viewing requirements.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Picture**.

Result: The options available in the **Picture** group are displayed.

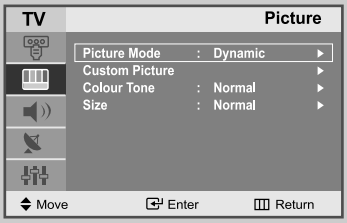
3 Press the **ENTER** ↵ button.

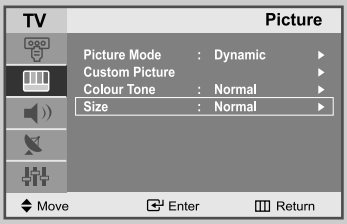
4 Press the ▲ or ▼ button to select the **Size**.
Press the **ENTER** ↵ button.

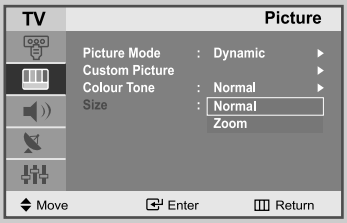
5 Select the required picture format by pressing the ▲ or ▼ button repeatedly.
Press the **ENTER** ↵ button.

Result: The following options are available:
Normal - Zoom

➢ ◆ You can also set these options simply by pressing the **P.SIZE** (Picture SIZE) button.



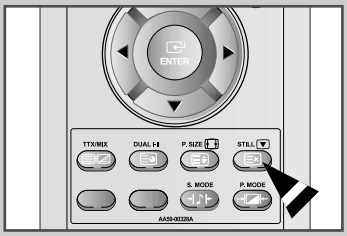




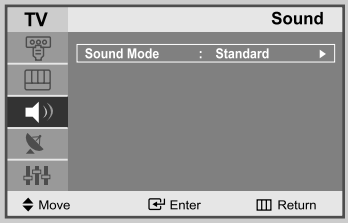
Normal

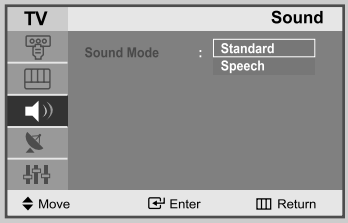
Freezing the Current Picture

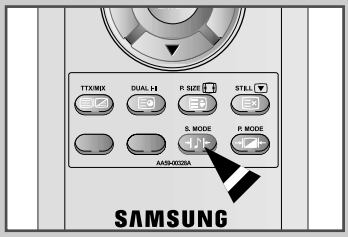
Press the "STILL" button on the remote control to freeze the picture on a given frame.
To return to normal viewing, press the "STILL" button again.



Changing the Sound Standard







You can select the type of special sound effect to be used when watching a given broadcast.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select the **Sound**.

Result: The options available in the **Sound** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the **ENTER** ↵ button.

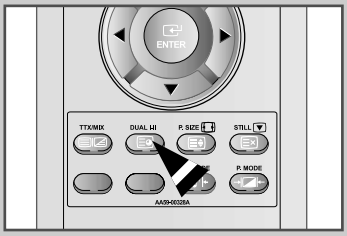
Result: The **Sound Mode** is selected .

5 Select the required sound effect by pressing the ▲ or ▼ button repeatedly.
Press the **ENTER** ↵ button.

Result: The following sound effects are available:
Standard - Speech

➢ You can also set these options simply by pressing the **S.MODE** (Sound Mode) button.

Selecting the Sound Mode



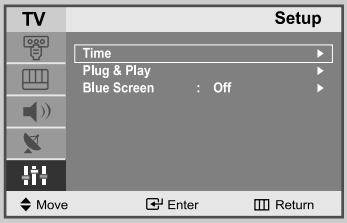
You can set the sound mode by pressing the "DUAL I-II" button. When you press it, current sound mode is displayed on the screen.

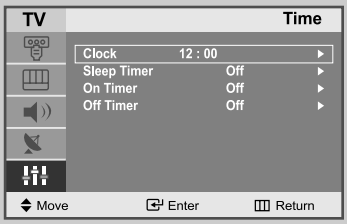
	Audio Type	DUAL 1/2	Default
FM Stereo	Mono	**MONO**	Automatic change
	Stereo	**STEREO ↔ MONO**	
	Dual	**DUAL 1 ↔ DUAL 2**	DUAL 1
NICAM Stereo	Mono	**MONO**	Automatic change
	Stereo	**MONO ↔ STEREO**	
	Dual	**MONO ↔ DUAL 1** → **DUAL 2** → **MONO**	DUAL 1

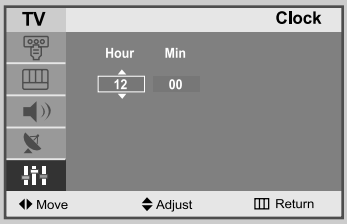
➢ ◆ If the receiving conditions deteriorate, listening will be easier if the mode is set to **Mono**.

If the stereo signal is weak and automatic switching occurs, switch to **Mono**.

Setting the Clock







1	Press the **MENU** button. Result: The main menu is displayed.
2	Press the ▲ or ▼ button to select **Setup**. Result: The options available in the **Setup** group are displayed.
3	Press the **ENTER** ↵ button.
4	Press the **ENTER** ↵ button. Result: The **Time** is selected.
5	Press the **ENTER** ↵ button. Press the ▲ or ▼ button to set the **Hour**.
6	Press the ◄ or ► button to move to **Min**. Press the ▲ or ▼ button to set the minutes.
7	Press the **ENTER** ↵ button. Result: The clock is set.

➢ You can also set the time using the numeric buttons on the remote.

Switching Off Automatically

You can select a time period of between -- and 180 minutes after which your set automatically switches off.

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The options available in the **Setup** group are displayed.

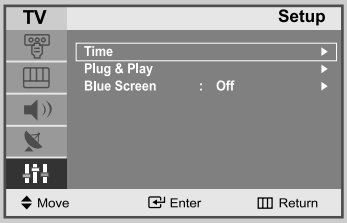
3 Press the **ENTER** ↵ button.

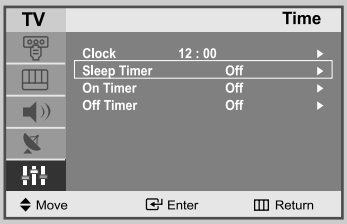
4 Press the ▲ or ▼ button to select the **Sleep Timer**.
Press the **ENTER** ↵ button.

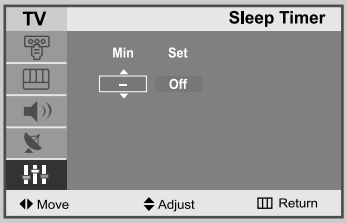
5 Select the number of minutes after which your set switches **On** by pressing the ▲ or ▼ button repeatedly.

Result: The preset time intervals:
- -, 30, 60, 90, 120, 150, 180 minutes.

➢ You can also select this feature by simply pressing the "**SLEEP**" button.
If the sleep timer is already set, the screen displays the remaining time and then your set will be switched **Off**.
If the sleep timer is not yet set, **Off** is displayed.
◆ Off • 30 • 60 • 90 • 120 • 150 • 180 • Off

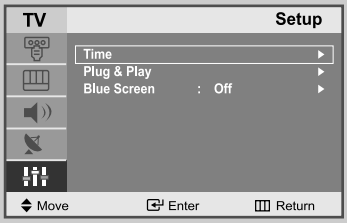


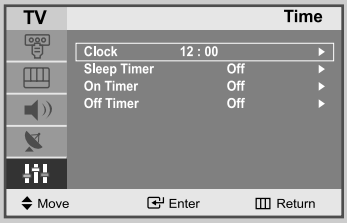


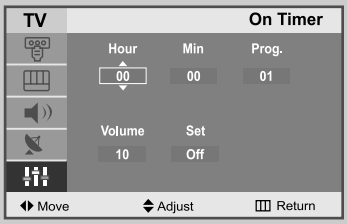


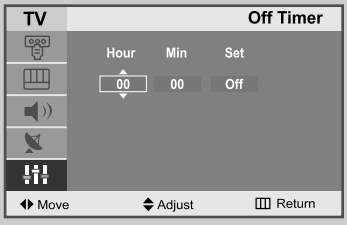
30 Min

Switching the Television On and Off Automatically









You can set the On/Off timers so that the set will:

- ***Switch on automatically and tune to the channel of your choice at the time you select.***
- ***Switch off automatically at the time you select.***

1 Press the **MENU** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The options available in the **Setup** group are displayed.

3 Press the **ENTER** ↵ button.

4 Press the **ENTER** ↵ button.

Result: The **Time** menu are displayed with **Clock** selected.

5 Press the ▲ or ▼ button to select the **On Timer**.
Press the **ENTER** ↵ button.

Result: The **On Timer** menu is displayed.

To...	Press the...
Move to **Hour, Min, Prog.** and **Volume**	◄ or ► button
Set **Hour, Min, Prog.** and Volume level	▲ or ▼ button
Move to **Set**	◄ or ► button
Select **On** to enable above setting	▲ or ▼ button

➢ Press the **ENTER** ↵ button.

6 Press the ▲ or ▼ button to select **Off Timer**.
In the same way, set the time at which you wish the set to be switched off automatically.

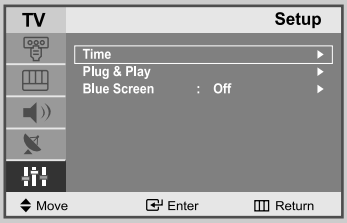
7

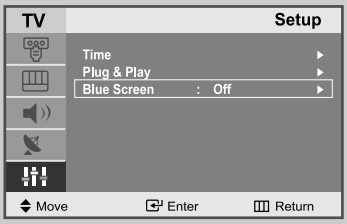
To display the...	Press the...
Current time and selected audio/video setting status	INFO button

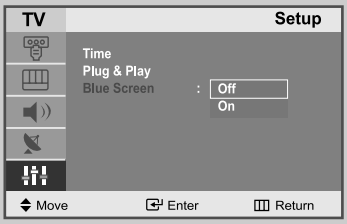
Setting the Blue Screen Mode

If no signal is being received or the signal is very weak, a blue screen automatically replaces the noisy picture background.
If you wish to continue viewing the poor picture, you must set the "Blue Screen" mode to "Off".

1	Press the **MENU** button. Result: The main menu is displayed.
2	Press the ▲ or ▼ button to select **Setup**. Result: The options available in the **Setup** group are displayed.
3	Press the **ENTER** ↵ button.
4	Press the ▲ or ▼ button to select **Blue Screen**. Press the **ENTER** ↵ button.
5	Select the required option (**On** or **Off**) by pressing the ▲ or ▼ button.
6	Press the **EXIT** button to return to normal viewing.

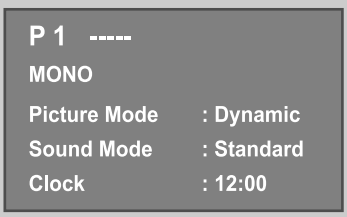




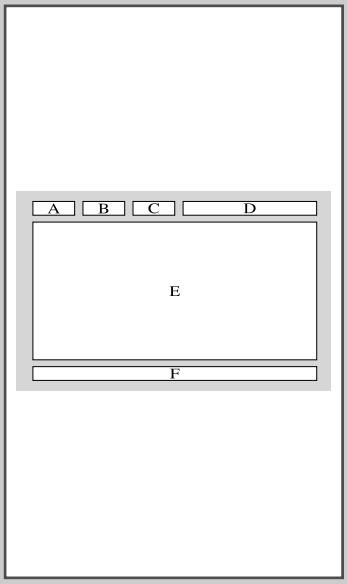


Displaying Information

You can view the setting status of the selected source by pressing the "INFO" button on the remote control.
The information displayed varies according to the selected source.



Teletext Feature



Most television channels provide written information services via teletext.
Information provided includes:

- ***Television programme times***
- ***News bulletins and weather forecasts***
- ***Sports results***
- ***Travel information***

This information is divided into numbered pages (see diagram).

Part	Contents
A	Selected page number.
B	Broadcasting channel identity.
C	Current page number or search indicators.
D	Date and time.
E	Text.
F	Status information. FASTEXT information.

➢ Teletext information is often divided between several pages displayed in sequence, which can be accessed by:

- Entering the page number
- Selecting a title in a list
- Selecting a coloured heading (FASTEXT system)

Displaying the Teletext Information

You can display Teletext information at any time on your set.

☛ For Teletext information to be displayed correctly, channel reception must be stable; otherwise:

- Information may be missing
- Some pages may not be displayed

1 Select the channel providing the Teletext service using the ▲ or ▼ button.

2 Press the **TTX/MIX** button to activate the teletext mode.

Result: The contents page is displayed. It can be redisplayed at any time by pressing the (index) button.

3 If you wish to display the actual broadcast at the same time as the teletext page, press the **TTX/MIX** button again.

4 Press the **TTX/MIX** button again to exit the teletext display.

Selecting a Page by Number

You can enter the page number directly by pressing the numeric buttons on the remote control.

1 Enter the three-digit page number given in the content by pressing the corresponding numeric buttons.

Result: The current page counter is incremented and the page is then displayed.

2 If the selected page is linked with several secondary pages, the secondary pages are displayed in sequence.
To freeze the display on a given page, press the (hold) button.
Press the (hold) button again to resume.

Using the various display options:

To display...	Press the...
◆ Hidden text (answers to quiz games, for example)	(reveal)
◆ The normal screen	(reveal) again
◆ A secondary page, by entering its 4-digit number	(subpage)
◆ The next page	(page up)
◆ The previous page	(page down)
◆ Double-size letters in the: • Upper half of the screen • Lower half of the screen	(size) • Once • Twice
◆ Normal screen	• Three times

Using FLOF to Select a Page

The various topics included in the teletext pages are colour-coded, and can be selected by pressing the coloured buttons on the remote control.

1 Display the teletext contents page by pressing the **TTX/MIX** button.

2 Press the coloured button corresponding to the topic that you wish to select; the available topics are given on the status line.

Result: The page is displayed with other coloured information that can be selected in the same way.

3 To display the previous or next page, press the corresponding coloured button.

4 To display the subpage, see the following steps.

- Press the (subpage) button.

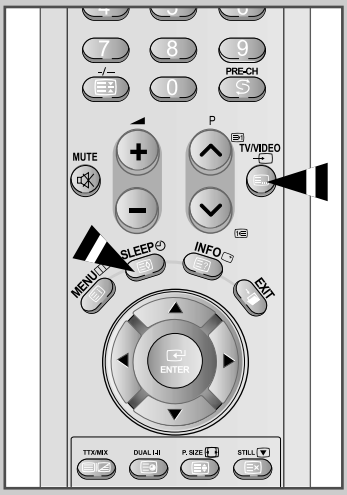
Result: The available subpages appear.

- Select the required subpage.

Subpages can be scrolled by using the or button.

Storing Teletext Pages

You can store up to four teletext pages to display them later at leisure.



1 Select the LIST mode using the (LIST/FLOF) button.

Result: Four 3-digit numbers are displayed in different colours.

➢ The (LIST/FLOF) button is used to switch between the LIST and FLOF modes.

2 Press the coloured button corresponding to the page that will be replaced.

3 Enter the new page number using the numeric buttons.

4 Repeat steps **2** and **3** for each page to be stored, using a different coloured button each time.

5 Press the (store) button until the corresponding blocks blink.

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Troubleshooting: Before Contacting Service Personnel

Before contacting Samsung after-sales service, perform the following simple checks.

If you cannot solve the problem using the instructions below, note the model and serial number of your set and contact your local dealer.

No sound or picture	◆ Check that the mains lead has been connected to a wall socket. ◆ Check that you have pressed the ⏻**POWER** button. ◆ Check the picture contrast and brightness settings. ◆ Check the volume.
Normal picture but no sound	◆ Check the volume. ◆ Check whether the **MUTE** button has been pressed on the remote control.
No picture or black and white picture	◆ Adjust the colour settings. ◆ Check that the broadcast system selected is correct.
Sound and picture interference	◆ Try to identify the electrical appliance that is affecting the set and move it further away. ◆ Plug your set into a different mains socket.
Blurred or snowy picture, distorted sound	◆ Check the direction, location and connections of your aerial. This interference is often due to the use of an indoor aerial.
Remote control malfunctions	◆ Replace the remote control batteries. ◆ Clean the upper edge of the remote control (transmission window). ◆ Check the battery terminals.

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Technical and Environmental Specifications

Model	LS15M13C	LS20M11C
Panel		
Size	15” Diagonal	20.1” Diagonal
Display Size	304.1 (H) x 228.1 (V) mm	408 (H) x 306 (V) mm
Type	TN	TN
Pixel Pitch	0.297 (H) x 0.297 (V) mm	0.6375 (H) x 0.6375 (V) mm
Viewing Angle	140/115 (H/V)	160/140 (H/V)
Power Supply		
Input	AC 100 ~ 250V (50/60 Hz)	AC 100 ~ 240V (50/60 Hz)
Power Consumption		
Normal	40 W	60 W
Stand-By	< 2 W	< 3 W
Dimensions (W x D x H) / Weight		
TV Body	470.0 x 57.0 x 313.7 mm 18.50 x 2.24 x 12.35 inch	594.0 x 90.0 x 427.0 mm 23.39 x 3.54 x 16.81 inch
With Stand	470.0 x 182.2 x 367.8 mm / 4.0kg 18.50 x 7.17 x 14.48 inch / 8.8lbs	594.0 x 252.0 x 489.5 mm / 8.0kg 23.39 x 9.92 x 19.27 inch / 17.64lbs
Environmental Considerations		
Operating Temperature	50 °F to 104 °F (10 °C to 40 °C)	
Operating Humidity	10% to 80%	
Storage Temperature	-13 °F to 113 °F (-25 °C to 45 °C)	
Storage Humidity	5% to 95%	

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Maintenance of Your Television

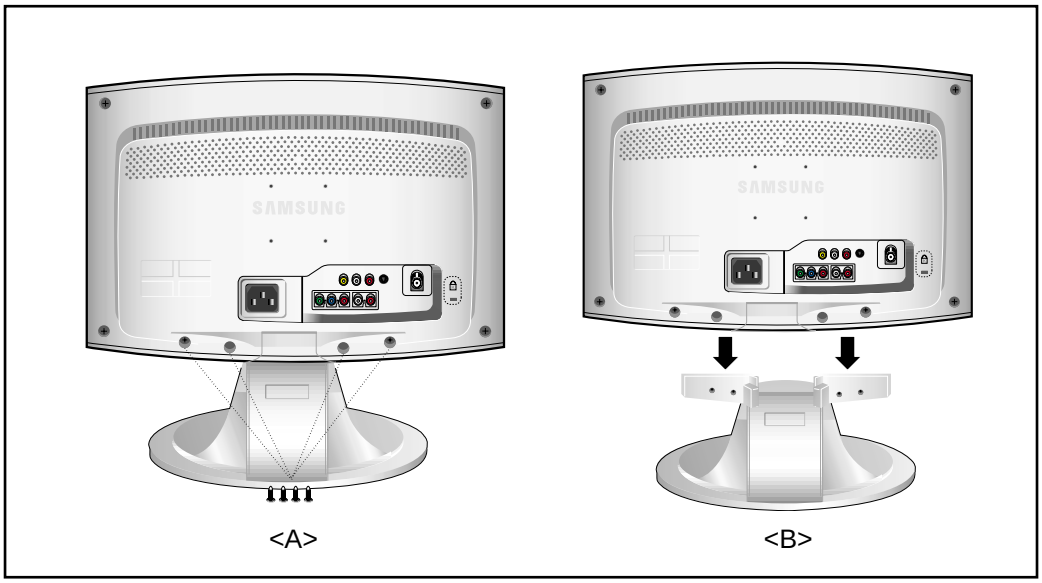
To avoid risk of electric shock, do not disassemble the TV cabinet.
Users must not service the TV.
User maintenance is restricted to cleaning, as explained below:

Unplug the television from the power outlet before cleaning.

- When you clean the TFT-LCD and the external panel, please apply the recommended small amount of cleaner, using a soft, dry cloth to polish it.
  Do not force your television screen, scrubbing it only softly.
  The use of excessive force can result in stains on the screen.
- Never use flammable cleaning material to clean your television or any other electrical apparatus.

Attaching a Wall or Arm mounting device

The TV supports VESA mounting standard for use with various VESA mounting devices. To install any VESA mounting device, please follow the instructions given.

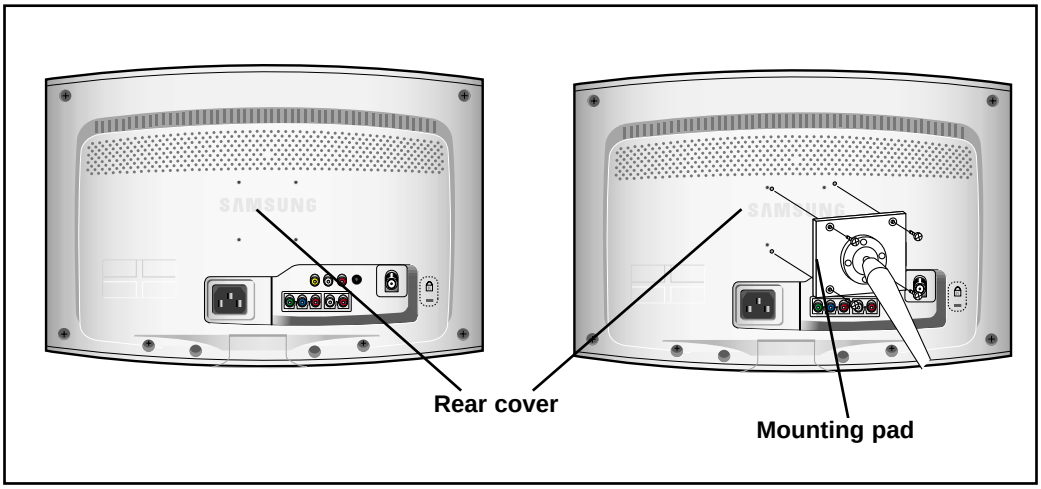


<A> <B>

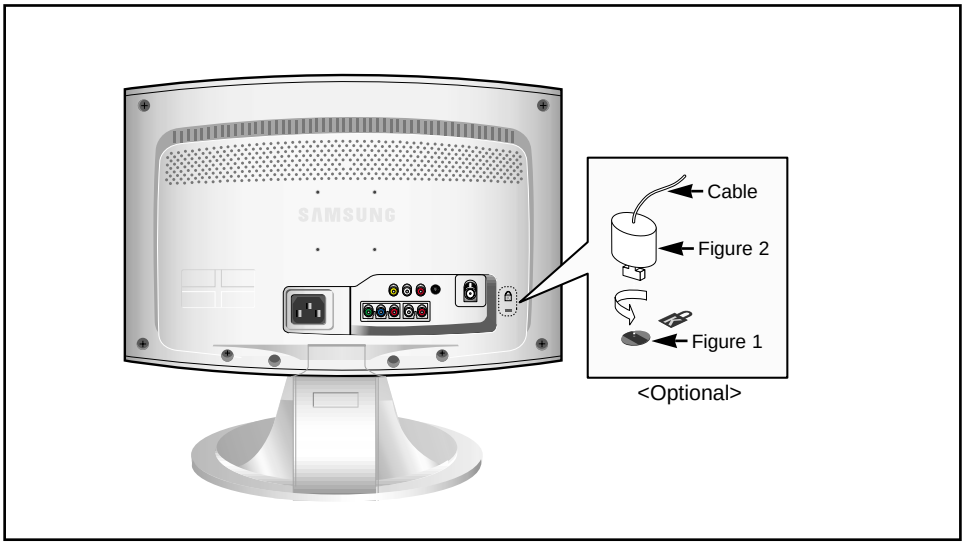
1	Lay the LCD TV face-down on a flat surface with a cushion or other soft materials to protect the screen.
2	Remove all cables connected on the TV.
3	Remove the four screws and then remove the stand from the LCD TV(refer to pictures A&B).
4	Connect all cables you removed in step 1.
5	Now you are ready to install Wall/Arm mounting device.

Installing VESA compliant mounting devices

Align the mounting interface pad with the holes in the rear cover mounting pad and secure it with the four screws that come with the arm-type base, wall mount hanger or other bases.



Kensington Slot



The Kensington lock is a device used to physically fix the system when using it in a public place. The locking device has to be purchased separately. The appearance and locking method may differ from the illustration depending on the manufacturer. Please refer to the manual provided with the Kensington lock for proper use.

1

Insert the locking device into the Kensington slot on the LCD TV (Figure 1), and turn it in the locking direction (Figure 2).

2

Connect the Kensington lock cable.

3

Fix the Kensington lock to a desk or a heavy stationary object.

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Wiring the Mains Power Supply Plug (UK Only)

◆ ***IMPORTANT NOTICE***

The mains lead on this equipment is supplied with a moulded plug incorporating a fuse. The value of the fuse is indicated on the pin face of the plug and, if it requires replacing, a fuse approved to BSI1362 of the same rating must be used. Never use the plug with the fuse cover omitted if the cover is detachable.
If a replacement fuse cover is required, it must be of the same colour as the pin face of the plug. Replacement covers are available from your dealer. If the fitted plug is not suitable for the power points in your house or the cable is not long enough to reach a power point, you should obtain a suitable safety approved extension lead or consult your dealer for assistance. However, if there is no alternative to cutting off the plug, remove the fuse and then safely dispose of the plug. Do not connect the plug to a mains socket as there is a risk of shock hazard from the bared flexible cord.

◆ ***IMPORTANT***

The wires in the mains lead are coloured in accordance with the following code:

BLUE - NEUTRAL BROWN - LIVE

As these colours may not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:
The wire coloured BLUE must be connected to the terminal marked with the letter N or colored BLUE or BLACK.
The wire coloured BROWN must be connected to the terminal marked with the letter L or colored BROWN or RED.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL, WHICH IS MARKED WITH THE LETTER E OR BY THE EARTH SYMBOL ⏚, OR COLOURED GREEN OR GREEN AND YELLOW.

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Memo

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– AFTER SALES SERVICE

– Do not hesitate to contact your retailer or service agent if a change in the performance of your product indicates that a faulty condition may be present.

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